

Docket No. 201TR032

Serial No. 10/722,623

Page 2

CLAIMS

What is claimed is:

1. (Currently Amended) A polymer blend, comprising:

a chlorinated polyvinyl chloride (CPVC) having a chlorine content of from about 60% to about 75% by weight, wherein the polyvinyl chloride precursor has an intrinsic inherent viscosity of from about 0.8 to about 1.2 per ASTM-D1243;

from about 3 to about 12 parts by weight per 100 parts by weight of said CPVC of an impact modifier derived from an organosiloxane monomer and at least one acrylic monomer;

from about 0.2 to about 2.5 parts by weight per 100 parts by weight of said CPVC of an aluminosilicate zeolite; wherein said zeolite has a mean particle diameter less than 1.5 microns, and 90% by weight of said zeolite particles are of a particle diameter below the range of from about 0.30 to about 3 microns, and wherein said zeolite contains from 1% to 30% by weight water; and

from about 0.5 to about 4.0 parts by weight per 100 parts by weight of said CPVC of a metal containing stabilizer.

2. (Original) A polymer blend according to claim 1, wherein said zeolite has the formula

$M_{2/n}O:[Al_2O_3]_x:[SiO_2]_y:[H_2O]_z$,

wherein M is a metal, n is the valence of said metal, and X, Y, and Z, independently, is from 1 to about 50, and

wherein said metal containing stabilizer is a tin stabilizer, a lithium stabilizer, a sodium stabilizer, potassium stabilizer, magnesium stabilizer, calcium stabilizer, strontium stabilizer, barium stabilizer, zinc stabilizer, cadmium stabilizer, aluminum stabilizer, or antimony stabilizer, or combinations thereof.

Docket No. 201TR032

Serial No. 10/722,623

Page 3

3. (Currently Amended) A polymer blend according to claim 2, where said CPVC has a chlorine content of from about 65% to about 70% by weight, wherein said PVC precursor has an intrinsic inherent viscosity of from about 0.85 to about 1.0;

wherein said the amount of said impact modifier is from about 4 to about 10 parts by weight per 100 parts by weight of said CPVC, and

wherein said impact modifier is a copolymer wherein said organosiloxane is a dialkyl siloxane wherein said alkyl group, independently, contains from 1 to about 5 carbon atoms, and wherein said acrylic monomer is an alkyl acrylate or an alkyl methacrylate monomer or both wherein, independently, each said alkyl group has from 1 to about 10 carbon atoms.

4. (Original) A polymer blend according to claim 3, wherein the amount of said zeolite is from about 0.4 to about 1.50 parts by weight per 100 parts by weight of said CPVC, and wherein the amount of said metal stabilizer is from about 1.0 to about 2.0 parts by weight per 100 parts by weight of said CPVC.

5. (Currently Amended) A polymer blend according to claim 4, wherein said impact modifier copolymer is derived from dimethyl siloxane, butyl acrylate, and methyl methacrylate,

wherein said zeolite has the formula

[[Na₂O:[AlO₂]₁₂:[SiO₂]₁₂:[H₂O]₂₇, and]] Na₂O:[Al₂O₃]₁₂:[SiO₂]₁₂:[H₂O]₂₇, and]

wherein said metal stabilizer is a dialkyltin bis(thioglycolate) wherein said alkyl group has from 1 to 10 carbon atoms.

6. (Withdrawn) A melt processed article, comprising:

a composition derived from a chlorinated polyvinyl chloride (CPVC) having a chlorine content of from about 60% to about 75% by weight, wherein the polyvinyl chloride precursor has an intrinsic viscosity of from about 0.8 to about 1.2 per ASTM-D1243;

Docket No. 201TR032

Serial No. 10/722,623

Page 4

from about 3 to about 12 parts by weight of an impact modifier derived from an organosiloxane monomer and at least one acrylic monomer;

from about 0.2 to about 2.5 parts by weight per 100 parts by weight of said CPVC of an aluminosilicate zeolite; and

from about 0.5 to about 4.0 parts by weight per 100 parts by weight of said CPVC of a metal containing stabilizer.

7. (Withdrawn) A melt processed article according to claim 6, wherein wherein said zeolite has the formula $M_{2/n}O:[Al_2O_3]_x:[SiO_2]_y:[H_2O]_z$,

wherein M is a metal, n is the valence of said metal, and X, Y, and Z, independently, is from 1 to about 50, and

wherein said metal containing stabilizer is a tin stabilizer, a lithium stabilizer, a sodium stabilizer, potassium stabilizer, magnesium stabilizer, calcium stabilizer, strontium stabilizer, barium stabilizer, zinc stabilizer, cadmium stabilizer, aluminum stabilizer, or antimony stabilizer, or combinations thereof.

8. (Withdrawn) A melt processed article according to claim 7, where said CPVC has a chlorine content of from about 65% to about 70% by weight, wherein said PVC precursor has an intrinsic viscosity of from about 0.85 to about 1.0;

wherein said the amount of said impact modifier is from about 4 to about 10 parts by weight per 100 parts by weight of said CPVC, and

wherein said impact modifier is a copolymer wherein said organosiloxane is a dialkyl siloxane wherein said alkyl group, independently, contains from 1 to about 5 carbon atoms, and wherein said acrylic monomer is an alkyl acrylate or an alkyl methacrylate monomer or both wherein, independently, each said alkyl group has from 1 to about 10 carbon atoms.

Docket No. 201TR032

Serial No. 10/722,623

Page 5

9. (Withdrawn) A melt processed article according to claim 8, wherein the amount of said zeolite is from about 0.4 to about 1.50 parts by weight per 100 parts by weight of said CPVC, and wherein the amount of said metal stabilizer is from about 1.0 to about 2.0 parts by weight per 100 parts by weight of said CPVC.
10. (Withdrawn) A melt processed article according to claim 9, wherein said impact modifier copolymer is derived from dimethyl siloxane, butyl acrylate, and methyl methacrylate, wherein said zeolite has the formula $\text{Na}_2\text{O}:[\text{AlO}_2]_{12}:[\text{SiO}_2]_{12}:[\text{H}_2\text{O}]_{27}$, and wherein said metal stabilizer is a dialkyltin bis(thioglycolate) wherein said alkyl group has from 1 to 10 carbon atoms.
11. (Withdrawn) A melt processed article according to claim 6, wherein said composition has a dynamic thermal stability of at least 11 minutes at 215°C.
12. (Withdrawn) A melt processed article according to claim 8, wherein said composition has a dynamic thermal stability of at least 12 minutes at 215°C.
13. (Withdrawn) A melt processed article according to claim 10, wherein said composition has a dynamic thermal stability of at least 13 minutes at 215°C.
14. (Withdrawn) An article according to claim 6, wherein said article is a water pipe.
15. (Withdrawn) An article according to claim 8, wherein said article is a hot water pipe or a radiant heat pipe.

Docket No. 201TR032

Serial No. 10/722,623

Page 6

16. (Withdrawn) An article according to claim 10, wherein said article is a hot water pipe or a radiant heat pipe.

17. (Withdrawn) An article according to claim 11, wherein said article is a water pipe.

18. (Withdrawn) An article according to claim 13, wherein said article is a hot water pipe or a radiant heat pipe.